

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

REMARKS

The foregoing amendments to the claims are substantially the same as the proposed claims faxed to the Examiner on April 5, 2004 by the undersigned and discussed with the Examiner on April 7, 2004. Those proposed claims were submitted in an effort to overcome the rejections under 35 U.S.C. § 112, second paragraph, in the last Office Action. With entry of this amendment, Claims 18 (incorporating the substance of Claim 19), 20 (incorporating the substance of Claim 21), and 22 (incorporating the substance of Claim 23) remain in this application.

Claims 19, 21, and 23 were not rejected on the basis of adverse prior art, in the last Office Action. Accordingly, the undersigned submits that remaining Claims 18, 20, and 22 likewise are not rejectable over the prior art of record.

Turning to the formal rejections, all claims were rejected as indefinite because the "side opposite the adhesive coating" was not understood by the Examiner. Responding to that rejection, Claims 18, 20, and 22 are amended to recite that the adhesive coating is applied "to one side of the tape-like textile support...". The fiber materials are recited as bonded to each other "on another side" of the tape-like textile support. The undersigned submits that the amended wording avoids the basis for the Examiner's above-cited rejection.

The claims also were rejected under 35 U.S.C. § 112, second paragraph, as indefinite because the phrase "by melting at a temperature of melting" was not understood. Although the Applicant believes those claims were definite as previously worded, the claims nevertheless are here amended to recite that the first and second fiber materials are bonded to each other "...by melting at a predetermined temperature". The

different melting points of those two fiber materials are now defined in the claims with reference to that predetermined temperature. Those claims as reworded are believed free of the basis for the Examiner's foregoing rejection.

The Examiner also questioned whether "the surface density of 130 g/m²" in Claim 18 refers to the adhesive coating or the synthetic rubber adhesive. In response, the Applicant respectfully directs the Examiner's attention to the specification at page 3, lines 9 and 10, stating that a synthetic rubber adhesive with a surface density of 130 g/m² is preferably used as an adhesive. That disclosure provides support for the relevant wording in Claim 18, namely, "the adhesive coating consisting essentially of a synthetic rubber adhesive having a surface density of 130 g/m²". Accordingly, the Applicant submits that the claim language and the specification unambiguously identify the numerical surface density as referring to the synthetic rubber adhesive.

The Examiner also questioned whether the numerical percentages in Claims 18, 20, and 22 were redundant as the tape-like support consists essentially of the two fiber materials. In response thereto, the numerical percentages are deleted from those claims.

Lastly, the Examiner has requested clarification of the term "surface density" used in Claims 18, 20, and 22. That term is used herein in its customary meaning, namely, as mass per unit area of surface. The attached copy of a page from the McGraw-Hill Dictionary of Scientific and Technical Terms, copyright 1994 and earlier dates, supports this definition.

The rejection of certain claims as unpatentable over prior art is noted. However, as those claims are now canceled from the application, those rejections are considered moot.

The foregoing is submitted as a complete response to the Office Action identified above. This application should now be in condition for allowance, and the Applicant solicits a notice to that effect.

Respectfully submitted,

MERCHANT & GOULD



Roger T. Frost
Reg. No. 22,176

Date: April 22, 2004

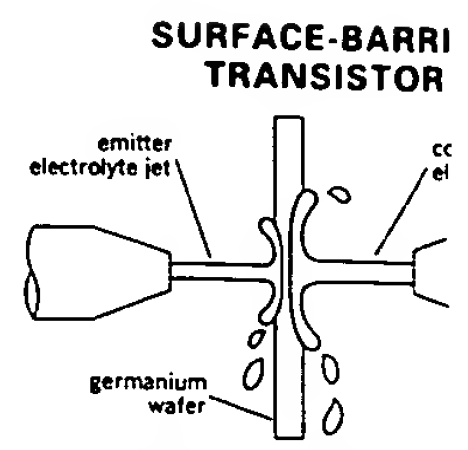
Merchant & Gould, LLC
P.O. Box 2903
Minneapolis, MN 55402-0903
Telephone: 404.954.5100



of the sternum
space above the
cervical fascia
is bone.
deposited im-
ra'tid-al 'sed-
more area immo-
el. ('sü-prä'tid-
g of living cells
ving cells from a
am)
se of a wall. 2. A
se of a pedestal.
above the level of
wall with an em-
rational number,
rational number.
between the shore
is, in the surf zone.
thickness of zero
ster-sized particles.
A subset of three-
sian coordinates
 $f(u,v), y = g(u,v)$
ntiable real-valued
ake real values and
id wave that propa-
a solid; ordinarily it
mponents. Abbrev-
Any device, such
ploys surface acous-
-10° hertz, travelling
electric substrate, to
stik 'wäv di,viz)
An electric fiber
olished surface along
ite, and on which
ich is connected,
electric source, the
stik 'wäv ,fältär)
le compound that
duces interfacial
a solid. Also known
amount of surface
top of the upcast
'sərfəs 'er ,lɛkʊ)
nd metallurgical
surfaces of ferro-
ials become an im-
om coatings which
g)
cedure in which a
racters onto a mag-
n back to determine
'sərfəs ə,nal-ə-
nt that measures
ng the stylus of a
ace, amplifying the
voltage to an in-
egularities magni-
,lɪz-ər)
of the extent of the
red by a surface.
tial barrier form-

surface of a semiconductor by the trapping of carriers at the surface. ('sərfəs ,bær-ər)
surface-barrier diode [ELECTR] A diode utilizing thin-surface layers, formed either by deposition of metal films or by surface diffusion, to serve as a rectifying junction. ('sərfəs ,bær-ər 'dī,ōd)
surface-barrier transistor [ELECTR] A transistor in which the emitter and collector are formed on opposite sides of a semiconductor wafer, usually made of *n*-type germanium, by training two jets of electrolyte against its opposite surfaces to etch and then electroplate the surfaces. ('sərfəs ,bær-ər 'tran,zis-tər)
surface boundary layer [METEOROL] That thin layer of air adjacent to the earth's surface, extending up to the so-called anemometer level (the base of the Ekman layer); within this layer the wind distribution is determined largely by the vertical temperature gradient and the nature and contours of the underlying surface, and shearing stresses are approximately constant. Also known as atmospheric boundary layer; friction layer; ground layer; surface layer. ('sərfəs 'bäun-drē ,lā-ər)
surface burning See glowing combustion. ('sərfəs ,bæm-ɪŋ)
surface carburetor [MECH ENG] A carburetor in which air is passed over the surface of gasoline to charge it with fuel. ('sərfəs 'kär-bə,rād-ər)
surface-charge transistor [ELECTR] An integrated-circuit transistor element based on controlling the transfer of stored electric charges along the surface of a semiconductor. ('sərfəs 'chärj 'tran,zis-tər)
surface chart [METEOROL] An analyzed synoptic chart of surface weather observations; essentially, a surface chart shows the distribution of sea-level pressure (therefore, the positions of highs, lows, ridges, and troughs) and the location and nature of fronts and air masses, plus the symbols of occurring weather phenomena, analysis of pressure tendency (isallobars), and indications of the movement of pressure systems and fronts. Also known as sea-level chart; sea-level-pressure chart; surface map. ('sərfəs ,chärt)
surface chemistry [PHYS CHEM] The study and measurement of the forces and processes that act on the surfaces of fluids (gases and liquids) and solids, or at an interface separating two phases; for example, surface tension. ('sərfəs ,kem-ə-strē)
surface-coated mirror [OPTICS] A mirror produced by depositing a thin film of highly reflective material on a glass surface. ('sərfəs 'kōd-əd 'mir-ər)
surface color [OPTICS] The color of light reflected from the surface of a body; in contrast to the color of light that is reflected after penetrating some distance into the body. ('sərfəs ,kəl-ər)
surface combustion [ENG] Combustion brought about near the surface of a heated refractory material by forcing a mixture of air and combustible gases through it or through a hole in it, having the gas impinge directly upon it; used in muffles, crucibles, and certain types of boiler furnaces. ('sərfəs ,bæs-chen)
surface condenser [MECH ENG] A heat-transfer device used to condense a vapor, usually steam under vacuum, by absorbing latent heat in cooling fluid, ordinarily water. ('sərfəs ,den-sər)
surface contamination [NUCLEO] The deposition and accumulation of radioactive materials to a surface. ('sərfəs ,täm-ə,nā-shən)
surface-controlled avalanche transistor [ELECTR] Transistor in which avalanche breakdown voltage is controlled by an external field applied through surface-insulating layers, and which permits operation at frequencies up to the 10-gigahertz range. ('sərfəs kən'trōld 'av-ə,lanch 'tran,zis-tər)
surface creep [GEOL] A stage of the wind erosion process in which grains of sand move each other along the surface. ('sərfəs ,krēp)
surface current [OCEANOGR] 1. Water movement which extends to depths of 3-10 feet (1-3 meters) below the surface in shore areas, and to about 33 feet (10 meters) in deep-ocean areas. 2. Any current whose maximum velocity core is at or near the surface. ('sərfəs ,kə-rənt)
surface density [PHYS] The quantity of anything distributed over a surface per unit area of surface. ('sərfəs ,den-səd-ē)
surface deposit See surficial deposit. ('sərfəs di,pāz-ət)
surface detention [HYD] Water in temporary storage as a

thin sheet over the soil surface during the occurrence of overland flow. ('sərfəs di,tən-chen)
surface drag [FL MECH] That portion of drag which is caused by skin friction. ('sərfəs ,drag)
surface drainage [HYD] Natural or artificial removal of excess groundwater. ('sərfəs ,drā-nij)
surface drilling [MIN ENG] Boreholes collared at the surface of the earth, as opposed to boreholes collared in mine workings or underwater. ('sərfəs ,dril-ɪŋ)
surface duct [GEOPHYS] Atmospheric duct for which the lower boundary is the surface of the earth. ('sərfəs ,dəkt)
surface-effect ship [MECH ENG] A transportation device with fixed side walls, which is supported by low-pressure, low-velocity air and operates on water only. ('sərfəs i,fekt ,ship)
surface energy [FL MECH] The energy per unit area of an exposed surface of a liquid; generally greater than the surface tension, which equals the free energy per unit surface. ('sərfəs ,en-ər-jē)
surface finish [ENG] The surface roughness of a component after final treatment, measured by a surface profile. ('sərfəs ,fin-ɪsh)
surface fire [FOR] A forest fire in which only surface litter and undergrowth burn. ('sərfəs ,fir)
surface flow See overland flow. ('sərfəs ,flō)
surface force [MECH] An external force which acts only on the surface of a body; an example is the force exerted by another object with which the body is in contact. ('sərfəs ,fōrs)
surface friction [GEOPHYS] The drag or skin friction of the earth on the atmosphere, usually expressed in terms of the shearing stress of the wind on the earth's surface. ('sərfəs ,frik-shən)
surface gage [DES ENG] 1. A scribing tool in an adjustable stand, used to mark off castings and to test the flatness of surfaces. 2. A gage for determining the distances of points on a surface from a reference plane. ('sərfəs ,gāj)
surface geology [GEOL] The scientific study of the features at the surface of the earth. ('sərfəs jē,äl-ə-jē)
surface grinder [MECH ENG] A grinding machine that produces a plane surface. ('sərfəs ,grɪn-dər)
surface hardening [MET] Hardening the surface of steel by one of several processes, such as carburizing, carbonitriding, nitriding, flame or induction hardening, and surface working. ('sərfəs ,hārd-ən-ɪŋ)
surface harmonics See spherical surface harmonics. ('sərfəs hār,män-iks)
surface hoar [HYD] 1. Feinlike ice crystals formed directly on a snow surface by sublimation; a type of hoarfrost. 2. Hoarfrost that has grown primarily in two dimensions, as on a window or other smooth surface. ('sərfəs ,hōr)
surface ignition [ENG] The initiation of a flame in the combustion chamber of an automobile engine by any hot surface other than the spark discharge. ('sərfəs ig,nish-ən)
surface integral [MATH] The integral of a function of several variables with respect to surface area over a surface in the domain of the function. ('sərfəs 'int-ə-grəl)
surface inversion [METEOROL] A temperature inversion based at the earth's surface; that is, an increase of temperature with height beginning at ground level. Also known as ground inversion. ('sərfəs in,vər-zhən)
surface irrigation [AGR] Application of water to the soil by means of pipes or furrows along the surface. ('sərfəs ,ir-ə,gā-shən)
surface layer See surface boundary layer. ('sərfəs ,lā-ər)
surface leakage [ELEC] The passage of current over the surface of an insulator. ('sərfəs ,lē-kij)
surface lift [MIN ENG] In the freezing method of shaft sinking, freezing and heaving of the surface around the shaft due to the formation of ice and the variation of temperature. ('sərfəs ,lift)
surface machining [MET] The cutting of three-dimensional shapes in a piece of work, by using numerical control equipment to transmit predetermined paths and designs. ('sərfəs mə,shēn-ɪŋ)
surface magnetic wave [ELECTROMAG] A magnetostatic wave that can be propagated on the surface of a magnetic material, as on a slab of yttrium iron garnet. ('sərfəs mag'ned-ik 'wäv)
surface map See surface chart. ('sərfəs ,map)
surface mining [MIN ENG] Mining at or near the surface;



Technique for making surface-barrier transistor.

On the cover: Photomicrograph of crystals of vitamin B₁.
(Dennis Kunkel, University of Hawaii)

Included in this Dictionary are definitions which have been published previously in the following works: P. B. Jordain, *Condensed Computer Encyclopedia*, Copyright © 1969 by McGraw-Hill, Inc. All rights reserved. J. Markus, *Electronics and Nucleonics Dictionary*, 4th ed., Copyright © 1960, 1966, 1978 by McGraw-Hill, Inc. All rights reserved. J. Quick, *Artists' and Illustrators' Encyclopedia*, Copyright © 1969 by McGraw-Hill, Inc. All rights reserved. Blakiston's *Gould Medical Dictionary*, 3d ed., Copyright © 1956, 1972 by McGraw-Hill, Inc. All rights reserved. T. Baumeister and L. S. Marks, eds., *Standard Handbook for Mechanical Engineers*, 7th ed., Copyright © 1958, 1967 by McGraw-Hill, Inc. All rights reserved.

In addition, material has been drawn from the following references: R. E. Huschke, *Glossary of Meteorology*, American Meteorological Society, 1959; *U.S. Air Force Glossary of Standardized Terms*, AF Manual 11-1, vol. 1, 1972; *Communications-Electronics Terminology*, AF Manual 11-1, vol. 3, 1970; W. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use*, 1st ed., National Aeronautics and Space Administration, 1965; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations*, Royal Aircraft Establishment Technical Report 67158, 1967; *Glossary of Air Traffic Control Terms*, Federal Aviation Agency; *A Glossary of Range Terminology*, White Sands Missile Range, New Mexico, National Bureau of Standards, AD 467-424; *A DOD Glossary of Mapping, Charting and Geodetic Terms*, 1st ed., Department of Defense, 1967; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms*, Bureau of Mines, 1968; *Nuclear Terms: A Glossary*, 2d ed., Atomic Energy Commission; F. Casey, ed., *Compilation of Terms in Information Sciences Technology*, Federal Council for Science and Technology, 1970; *Glossary of Stinfo Terminology*, Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms*, Bureau of Naval Personnel, 1962; *ADP Glossary*, Department of the Navy, NAVSO P-3097.

McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, Fifth Edition

Copyright © 1994, 1989, 1984, 1978, 1976, 1974 by McGraw-Hill, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher.

6 7 8 9 0 DOW/DOW 03 02 01 00

ISBN 0-07-042333-4

Library of Congress Cataloging-in-Publication Data

McGraw-Hill dictionary of scientific and technical terms /
Sybil P. Parker, editor in chief.—5th ed.

p. cm.

ISBN 0-07-042333-4

1. Science—Dictionaries. 2. Technology—Dictionaries.

I. Parker, Sybil P.

Q123.M34 1993

503—dc20

93-34772

CIP

INTERNATIONAL EDITION

Copyright © 1994. Exclusive rights by McGraw-Hill, Inc. for manufacture and export. This book cannot be re-exported from the country to which it is consigned by McGraw-Hill. The International Edition is not available in North America.

When ordering this title, use ISBN 0-07-113584-7.